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Bullet Train to Nowhere

The ultimate California boondoggle

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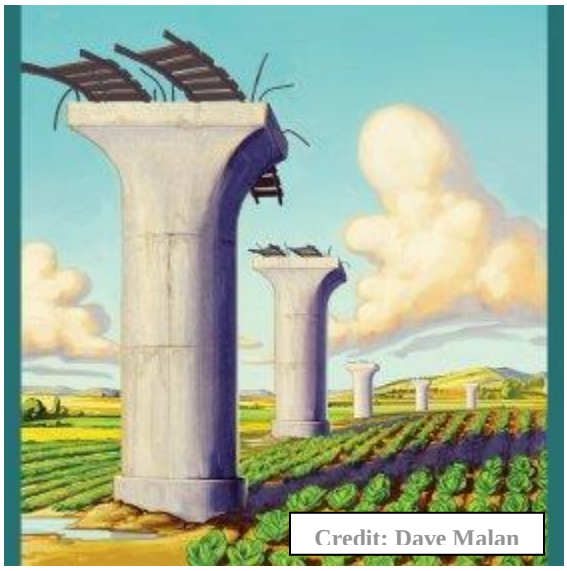

Madera, Calif.

In December 2015 a Pacific Ocean weather condition known as El Niño, in which unusually warm equatorial water temperatures interact with trade winds and generate huge amounts of rainfall, halted, at least temporarily, a blistering five-year drought in California. The rain was still falling in drenching torrents on the Wednesday morning in early January when I visited one of the two sites in the state where construction had begun in any substantial way on the controversial high-speed rail system that is supposed to connect California's two largest cities, Los Angeles and San Francisco, via trains running 220 miles an hour. Around the time that the state's voters approved the train in a 2008 referendum authorizing a $9.95 billion bond issue to help pay for it, its supporters had promised a completion date of 2018 for this "Phase 1" of a still more ambitious high-speed rail network that would eventually hurtle Californians all the way from the state capital, Sacramento, 95 miles northeast of San Francisco, to San Diego, near the Mexican border.

But the bullet-train project has moved more slowly—far more slowly—than its boosters anticipated. What I was to see consisted of a 1,600-foot viaduct spanning the Fresno River on the rural outskirts of Madera, a rundown city of 63,000 in the heart of the state's agriculturally rich but economically parched San Joaquin Valley—a landscape that is geographically, topographically, demographically, and culturally far away from the bustle of the two coastal metropolises that the train was supposed to be designed to serve. The Fresno River viaduct is part of an initial 130-mile stretch of track through the valley that would allow passengers to travel from Madera, 164 miles -southeast of San Francisco, to Bakersfield, 110 miles northeast of Los Angeles. Well, actually not quite all the way to Bakersfield, California's ninth-largest city, with a population of 364,000, but to the edge of an almond orchard on the fringes of Shafter, a sleepy farm town of 17,000 some 19 miles to the north. That was because the California High Speed Rail Authority (CHSRA), the autonomous state agency in charge of planning and building the train, didn't have quite the money in its budget to take the train to downtown Bakersfield, and passengers bound for that city would presumably have to board a low-speed connector bus to actually arrive there. The estimated date for completing this initial stretch was September 2017, the deadline for spending $3.5 billion in "stimulus" money from the Obama administration. Actually linking San Francisco and Los Angeles with a southerly terminus in Anaheim on a total of 520 miles of track had been pushed out to the year 2022. Critics have dubbed the high-speed rail project the "train to nowhere," and it was easy to see why.

Those *longueurs* are only part of the story. The rest of the story is the astonishingly widespread political opposition to the train by California voters these days, even though 53 percent of them approved the idea when it was on the state ballot in the November 2008 election. The opposition spans ideological left and right and demographic rich, poor, and middle-class: from wealthy Silicon Valley technocrats horrified that the ultra-fast rail lines, with overpasses only every 10 miles or so, would wreck their leafy, bicycle-friendly upscale-suburban neighborhoods, to Latino-majority working-class towns in Southern California's San Fernando Valley that would be split in half by the train corridors, to equestrians in the San Gabriel Mountain foothills who would see their horse trails destroyed and environmentalists concerned about wetlands destruction in Northern California and threats to wildlife and endangered plant species in Southern California's Angeles National Forest, through which several of the proposed train routes would plow.

Thanks to this near-universal hostility, the CHSRA has so far succeeded in acquiring only 60 percent of the 1,300 parcels of land that it needs just to run those 130 miles of track from Madera to Shafter. Meanwhile, polls conducted from 2013 to 2016 have consistently shown that at least 52 percent of Californians want the state to ditch the high-speed rail project entirely and use the 2008 bond funds for something else, possibly for water storage or for beefing up conventional rail and public-transportation systems in the traffic-clogged Los Angeles and Bay Area "bookends" of the projected bullet-train system.

Agriculture uses 40 percent of California's water, so the drenching rains I encountered were welcome as a general proposition in the San Joaquin Valley, the southern half of California's 450-mile-long Central Valley, a 60,000-square-mile plain running between the coastal mountain ranges to the west and the Sierra Nevada to the east. But alongside the still mostly unbuilt rail viaduct, at this point just a handful of massive 25-foot concrete columns plus steel rebar cages, the pelting rain meant construction-site mud and plenty of it. Indeed, owing to the rain, work had already halted for the day when I arrived in a CHSRA-rented Jeep Grand Cherokee, accompanied by Toni Tinoco, the public information officer for the authority's regional office in Fresno, and Michael Leongson, one of the five staff engineers assigned to this part of the project (the actual general contractor is Tutor Perini, a Southern California entity that specializes in large-scale infrastructure). A lone hard-hatted workman sloshed through the ankle-deep mud to ask us what we were doing there, and Tinoco and Leongson duly pulled out their state ID badges. The workman advised us not even to try to get out of the Cherokee and into the sludge, so we drove a little farther up a slight incline behind the machinery where we could see the stout gray columns, flared at their rectilinear tops like the pillars of ancient Egyptian temples and displaying their own brand of engineering elegance, marching from the horizon down a grassy, empty landscape dotted here and there with eucalyptus trees to the river's western embankment, and then beyond the river on the other side where the rail-bed would taper off to grade.

"The pedestals of those columns are 80 feet deep and 10 feet in diameter," Leongson said. "They'll support the deck for the train." He explained that the viaduct was part of an elevation six or seven miles long that would enable the bullet train to swing high over not just the Fresno River but California Route 145, which runs through the heart of the San Joaquin Valley. The 29-mile stretch from Madera to downtown Fresno to which Leongson was assigned was the very first phase of the high-speed rail's construction, with two more phases contracted out to other private construction entities that would connect Fresno to that almond orchard near Bakersfield at the valley's southeast end. "We broke ground in January 2015, and we're 50 percent complete," he said. The bullet train's planned rail-bed for the valley roughly parallels two conventional diesel-powered freight lines, the BNSF running from Madera to Fresno and the Union Pacific running south of that. As we talked, a serpentine BNSF train clattered heavily over the river on its old-technology trestle bridge. "You won't hear that on *our* train," Leongson said. "Ours is electrified, so there's no noise, and no train-whistles because we won't be crossing any roads at grade." He

pointed out that the bullet train required the most parsimonious of right-of-ways: just 50 feet on either side of its tracks. "Electric-powered trains are lighter than diesel trains, and they're quieter and faster."

The construction that Leongson and Tinoco had shown me was indeed impressive—but so was its exiguous nature compared with the overall project and the slowness with which it was proceeding. Construction had begun only in June 2015, two years behind schedule and six months after a showy ground-breaking ceremony in Fresno in January 2015, presided over by the train's biggest booster, maverick Democratic governor Edmund G. "Jerry" Brown Jr. Concrete-pouring for the viaduct's "deck"—the rail-bed itself—began in March this year. Photos show a horizontal structure that is equally impressive as an engineering feat—but a 1,600-foot overpass that still lacks train tracks is only a minor part of that 119-mile segment.

Besides the Madera viaduct, there wasn't a lot to show of this ambitious undertaking when I visited, and there still isn't. Shortly after starting construction in Madera, crews began work on a second project relatively minor in scope: demolishing an automobile overpass in downtown Fresno known as the Tuolumne Street Bridge. It allowed Union Pacific freight trains to run through the city center without disrupting street traffic but wasn't high enough to accommodate a bullet train and its electrical superstructure. Replacing that bridge with a taller one is supposed to take "under a year," Leongson said. Construction has also recently begun on two other viaducts that will span two rivers south of Fresno.

Besides the glacial pace of the project, it was hard not to notice an element of confusion as well. While we were driving north from Fresno to Madera on Highway 99, made famous by John Steinbeck in *The Grapes of Wrath* as the artery that funneled Okie farmworkers migrating to the valley during the Great Depression, we had passed a huge yard filled with soaring cranes and other construction machinery. The machines had been sitting idle—and depreciating—since the CHSRA had purchased them more than a year before my visit. "It's top-notch equipment, so it was a business strategy to buy them," Tinoco explained. But "we needed the design to be completed and to obtain the environmental permits before we could use them," she said.

It is undoubtedly unfair to perceive as metaphors the rain, the mud, the never-used equipment, and the solo unfinished viaduct over an isolated rural river in an agricultural valley more than a hundred miles from the heavily trafficked coastal corridor that connects Los Angeles and San Francisco. But the metaphors are irresistible because they point to reality. The out-of-the way location of this first segment of construction was, by all accounts, the product of a political decision while the train was on the drawing board during the 1990s, one that weighed the flat terrain plus a much-touted economic boon to the jobs-starved valley, along with the fact that the valley is one of California's less-populated areas, with relatively few NIMBY-minded residents expected to complain about blocked-off streets and superfast trains whooshing through their neighborhoods at all hours of the day and night. The valley's total population is only about 4 million, compared with 7 million for the San Francisco Bay Area and 19 million for greater Los Angeles. Many coastal Californians have never set foot in the valley, partly because its basin shape makes it the air-pollution capital of the state during the smoggy summer.

And indeed, the poverty of the San Joaquin Valley is startling, belied by the tidy rows of nut and stone-fruit trees that make for a pleasant vista along Highway 99. According to a study by the webzine *24/7 Wall Street* of Bureau of Labor Statistics figures, half the dozen U.S. metropolitan areas with the highest rates of unemployment in December 2015 were in the valley—including Madera (No. 12), Bakersfield (10), and Fresno (9)—all with jobless rates in the double digits, compared with an overall U.S. unemployment rate of 4.9 percent. Low-skill, low-paying farm work in the valley has for decades been a magnet for Latino immigrants, legal and illegal, but

agriculture's increasingly mechanized efficiency has left less and less for the immigrants, and especially their offspring, to do.

Driving or—even worse—walking through the central streets of Fresno (a city of 520,000 and the unofficial capital of the San Joaquin Valley) is a dispiriting experience. Fresno's economic heyday was the half-century that preceded the Depression, and its downtown, despite periodic fits of demolition, has managed to retain numerous fine examples of urban commercial architecture from that period: office buildings, (mostly empty) storefronts, lavishly decorated defunct movie palaces. The CHSRA's regional office occupies five floors in one of the handsomest of those structures. But the streets surrounding it were nearly empty of both foot and auto traffic on the Wednesday I visited. A corner sign proclaimed "Downtown Business Hub Fresno CA" in what looked like bitter irony: Practically the only operating "business" in evidence was a mega-church occupying a former movie theater and operating a latte shop that closed in early afternoon—although across the street construction workers were busily building a condo complex that looked geared to New Urbanism dreams surrounding the high-speed rail station slated to be built nearby. A block or two away, Fresno's main financial and retail district along Fulton Street never recovered from a disastrous 1960s experiment in converting it into a no-cars-allowed pedestrian mall, and boarded-up and otherwise unoccupied storefronts were the rule.

Local officials—and especially CHSRA officials—bristle at the suggestion that the California bullet train might be at least in part a jobs program for the Fresno area. But the fact remains that Fresno officials and construction unions have been among the biggest boosters of the project. The January 2015 ground-breaking, from which the general public was barred, featured strong contingents from both groups. Tinoco and Leongson drove me around central Fresno pointing out decrepit warehouses and defunct restaurants in the projected path of the train, businesses whose owners, they said, had gladly accepted generous condemnation and relocation funds to rebuild elsewhere.

"They all want the money," said House rail subcommittee chairman Jeff Denham. The Republican represents Turlock, a city of 70,000 about 80 miles north of Fresno, and is a longtime opponent of the bullet train. "Every consultant and every engineering firm got hired, including Republicans. In the city of Fresno they like it, because they want the grade separation, and the property owners are now 90-10 percent in favor. And why not? They all got together on those relocation fees—they're really overpriced—and checks were written everywhere." (CHSRA officials counter that the authority aims to pay fair compensation to all displaced owners.)

It was on the farms and in the smaller towns outside of Fresno that nearly unanimous opposition to the bullet train appeared, along with widespread complaints that CHSRA's compensation offers are far from adequate, reflecting what many residents regard as city-slicker disdain for agriculture and a lack of understanding of the value of agricultural land and the way it is used. Thanks to excellent soil, a long and sunny growing season, and a near-perfect day-to-night temperature ratio, the San Joaquin Valley and its northerly extension, the Sacramento Valley, yield around 300 different crops, about a quarter of the fruits and vegetables grown in the United States. There was widespread suspicion among valley residents that one of the ultimate goals in routing the bullet train through there was to develop the vast fields into low-cost commuter subdivisions for Los Angeles, San Francisco, and Sacramento, essentially terminating the valley's agricultural viability.

I spent the next few days in one of those towns, Hanford, population 55,000, about 33 miles southeast of Fresno. As with Fresno—and as with Madera, for that matter—Hanford's historic downtown enjoys attractive and well-tended classic civic architecture attesting to the happier days of the early 20th century. Hanford is the county seat of Kings County, on the valley's western side and regarded as the ground zero of high-speed rail construction, through whose farms and

residential properties the train would slice to connect Fresno with points south. Hanford's downtown already houses an Amtrak passenger station and a Union Pacific freight line along whose ties the engine horns moan day and night. The country roads were sprinkled with handmade protest billboards: "Dams Not Trains."

I visited the extensive operations of Tos Farms, one of Hanford's most prosperous family-run agribusinesses. John Tos, lean and balding and in his mid-70s, has been a lead plaintiff in one of the most contentious of the lawsuits against CHSRA, in and out of various state courts since 2011. The Tos family, descendants of Dutch immigrants, has been farming in Hanford since 1912, and Tos rattled off a list of the crops that he, his brother, Bill Tos, and their two sons, Jeff and Mark, were raising: "Walnuts, almonds, table grapes [the Fresno area is America's raisin capital], peaches, plums, nectarines, pluots, cherries, apricots, alfalfa, corn." His spacious office was a pleasant and orderly mix of sturdy oak furniture and prominently displayed photos of grandchildren. Tos wouldn't say how many acres his family farms these days, on land it either owns or leases, but his business employs more than 250 people, and it is safe to estimate that the Tos acreage ranges in the thousands.

About the high-speed train, which would run diagonally through seven of Tos Farms' cherry and almond orchards, Tos seethed with low-level rage and sardonic wit. Bluntly outspoken, he once, at a CHSRA meeting, compared the authority's plans for the valley to the Holocaust (although he immediately apologized). One of the things that infuriated him most, he said, was the rail authority's assumption that farmland is essentially empty land, and that carving a 100-foot-wide diagonal corridor through the farms of the western valley would be minimally disruptive. "If this was 150 years ago, it would be no problem," Tos said. "But right now the valley is 100 percent developed. This land has been farmed for 100 years. It takes a long time to make a land perfect."

A few minutes later we clambered aboard his massive black Ford Super Duty truck to see what Tos meant. One of the major problems of the bullet train is the on-the-ground conflict between the physical and the political geography of the Central Valley. Although the valley indeed runs roughly north to south, it also tilts to the west as it approaches San Francisco, more or less paralleling the California coast. All of the north-south rail lines in the valley, as well as its major highways, 99 and Interstate 5, the big-rig-centric freeway that hugs the valley's western edge, curve westward along with the valley itself as they climb to the north. And so will the projected bullet train, which roughly parallels the BNSF and Union Pacific tracks. But the towns, cities, and farms in the valley are laid out more or less on a strict north-south-east-west compass grid that dates to the 19th century, as if one were in Kansas. The major rural roads in Kings County, for example, are a precise mile apart. The practical accommodations between this artificial grid and the natural tilt of the valley were made long ago, and most of those who live there say that disrupting them would be devastating.

Tos drove me to the 160 acres of almond trees, bare-branched in early January, where the CHSRA plans to plant a four-leaf-clover overpass. He pointed out a sprinkler-irrigation system running through the rows of trees that would be destroyed (along with a pump-driven well) because "they're going through the fields diagonally." He added, "We rent this ranch on a 20-year lease. They will pay the owner for the land, but they won't recognize us as the owners of the trees and the loss of 20 years of production." (Almond trees don't bear fruit until about four years after they are planted, and they stop producing and must be replaced after a maximum of 25 years.) Adjacent to his almond orchard Tos pointed to a neighbor's cherry orchard. "A full one-fourth of this will be blocked," he said. "There will be no access by road" to that part of the orchard because the bullet-train's projected route would seal off part of the existing road-grid. Economies of scale come into play, Tos explained: It costs almost as much in equipment and infrastructure to farm 20 acres of fruit as to farm 40 acres, so when a farmer loses half his trees, or even a fourth of them, it makes little economic sense to go on farming that particular parcel.

Tos said that he and other valley farmers have long urged the CHSRA to move the planned bullet-train line some 30 miles to the west of Hanford to run alongside Interstate 5, whose landscape is genuinely barren, whose local economy is pretty much restricted to cattle-ranching, and whose population is relatively tiny, owing to a general lack of water. (The more easterly parts of the valley are watered by snow runoff from the Sierra Nevada, but farmers in the Hanford area, including the Tos family, rely on pump-driven irrigation wells.) "The state already owns the land" alongside Interstate 5, Tos said. CHSRA officials counter that Interstate 5 runs parallel to the San Andreas Fault, the mother of nearly all California earthquakes, and thus isn't a suitable location for a high-speed train. And of course Interstate 5 is a full 50 miles west of Fresno and its hopes for a train-centric urban renewal.

Two days later, I sat in Hanford's lone downtown Starbucks talking to 38-year-old Alisa Gomez, a high school teacher in nearby Corcoran who, together with her husband, Frank Gomez, who works for Future Farmers of America, owns a house on two acres whose living room is smack "in the alignment" of the train's projected path. The gist of our conversation pointed to reasons why the rail authority has had such trouble persuading rural property owners in the valley to agree to turn over their property voluntarily and why so many of those owners believe that the authority has no understanding of—and may even have contempt for—how people in rural California actually live.

"Our house is out in the country, so we have horses, two horses; they're one of my 10-year-old daughter's hobbies," Gomez said, describing a dispute between her family and the CHSRA that had been festering since early 2015 over exactly what sort of compensation the Gomezes should be expected to accept when, if all goes according to plan, they are forced to relocate along with their four children. "It's a very unique house," Gomez said. "It was built for two families, so there's a huge great room for a party. It's got two master bedrooms—it's 3,300 square feet, with six bedrooms and four baths. They keep sending me comparables, but they're either in the city [of Corcoran], so we'd have to move into town, and where am I supposed to put my horses? Or they're 35 to 45 minutes away, so what is it going to cost in fuel? We looked at about 20 properties, and we found a house that's pretty close to where we live, but it's about half the size, so we want to buy that property and build a new house on it. But that would cost us $590,000 plus $480,000 for a new house." The CHSRA's on-the-spot appraisal of their existing house was only $300,000, plus relocation costs up to a total of $490,000. "They told us, 'Your house isn't worth it,' " Gomez said.

Even more humiliating than what she perceived as a lowball offer, Gomez said, was the highhanded way in which she said the rail authority treated her. "They even began contacting my ex-husband, who has no ties to the house. We divorced 10 years ago." And lately, Gomez added, the CHSRA had brought up, on at least two occasions, the topic of a Resolution of Necessity—an official declaration that is a prelude to an eminent-domain lawsuit in which she and her husband would have to hire lawyers and a judge would decide the value of their home, possibly at far less than it would be sold by arms-length negotiation. "That's just flat-out bullying," Gomez said.

The general resentment of the bullet train in the valley was so intense that I wondered to CHSRA spokesman Toni Tinoco if there were any farmers who actually supported the train's encroachment upon their properties. She sent me to 65-year-old Brad Johns, an ebullient, sometimes belligerent-sounding bearded extrovert with a booming voice who drove me in his GMC pickup to the 430 acres of Roma tomatoes adjacent to the valley's Kings River that he grows for the agribusiness Olam International, which operates a processing plant churning the red fruit into tomato paste and salsa in Lemoore, a town of 25,000 about eight miles southwest of Hanford. Johns, a graduate in agricultural mechanics of California State University-Fresno, boasted about the sophisticated drip-irrigation system he used for his farm that he said contrasted sharply in efficiency to the system of sprinklers and wells drilled deep into the valley's

underground aquifer with which the Tos family watered its orchards. "He's my next-door neighbor," Johns said of John Tos with a note of evident resentment. "I put seeds in the ground and grow food that feeds Americans. He grows walnuts and sells to China. They're a dessert, a garnishment, and they're all exported." (In fact, the nut growers of the Central Valley came under intense criticism at the height of the drought for their thirsty but lucrative trees: Nearly every almond eaten in the United States comes from the valley, and Asian demand has turned those tasty nuts into California's most remunerative agricultural export.)

The CHSRA bought three of Johns's tomato parcels, totaling about 23 acres, including Johns's own house, whose front door lay in the center of the bullet train's path. Perhaps he was lucky—the house happened to occupy a minor corner of his property—and perhaps he got an unusually generous deal. It helped that there was already another house on the other end of the land that had belonged to Johns's late father, which the CHSRA paid Johns to renovate. The authority also planned to remove and store his displaced topsoil during the construction process and replace any damaged parts of his irrigation system. To Johns, the bullet train represented a welcome chance for rural dwellers to sample city life without spending hours on the road. "This is a great thing," he said. "I can go up to San Francisco in an hour and 15 minutes and see my boy up there."

The year 2008, when California's voters approved Proposition 1A, was more of a culmination than a starting point. Japan had been building bullet trains since the 1960s, and France opened its first high-speed line connecting Paris and Lyon in 1981. The electric-powered trains in both countries could reach a top speed of 320 miles per hour, and they made a profound impression on Jerry Brown, who governed California from 1975 to 1983 and began a second round of governorships in 2011. (Amtrak's Acela passenger trains, plying the Atlantic coast from Boston to Washington, have top speeds of only 150 miles per hour.) During his first two terms, Brown signed legislation funding a study of high-speed rail's feasibility for California, and he made bullet trains one of the themes of his abortive run for president on the Democratic ticket in 1992. In 2015, a full-scale mockup of the high-speed train was displayed in front of the California State Capitol in Sacramento as testimony to Brown's ambition.

As early as 1996 the California legislature, impressed like Brown by the fact that electric-powered rail systems in Europe could compete with plane and auto travel for distances between 200 and 500 miles, created a nine-member, virtually autonomous High Speed Rail Authority to develop and implement such a system for California. The state's population had more than tripled from the end of World War II to the 1990s (from 10 million to 32 million; it's now 39 million), and despite half a century of frantic road construction, traffic-choked freeways and automobile-generated air pollution were (and still are) bedeviling problems in California, especially in the Los Angeles Basin and the San Francisco Bay Area. The idea was to move commuters, vacationers, and business travelers out of their automobiles and onto trains. In 2004 the Democratic-dominated legislature approved the referendum that was to appear before the state's voters in 2008 as Proposition 1A.

It was a measure carefully crafted to appeal to as many political constituencies as possible and to allay the fears of as many opponents as possible. Hence, although the aim was to connect the major coastal cities of Los Angeles and San Francisco, Prop 1A also required the line to include stops in the economically ailing San Joaquin Valley, necessitating a major inland detour that seemed to be aimed mostly at attracting the support of San Joaquin Valley legislators. For example, it included a stop in Merced, about 34 miles north of Madera, that isn't even part of a Los Angeles-San Francisco route but could use an economic boost (it's No. 5 on the *24/7 Wall Street* list, with unemployment of 11.9 percent). The ballot measure stated that the bullet train would eventually stretch 800 miles, when a second phase extended it to San Diego and Sacramento. Those features turned the train from simply an ultra-fast connector between major population centers along the coast into a presumed economic jump-starter for inland California

communities (proponents predicted more than 600,000 construction-related and other jobs). In a further effort to make the bond issue appetizing to voters, the ballot measure allocated nearly $1 billion of the proceeds to funding conventional urban and commuter rail projects.

Proposition 1A made certain promises of nearly magical specificity: that the trains would operate at speeds of at least 200 miles an hour; that the maximum travel time between Los Angeles's downtown Union Station and the Transbay Transit Center in San Francisco would be exactly two hours and 40 minutes; that trains would be running in either direction every five minutes; that state taxpayers would be on the hook only to repay principal and interest on the bonds; that no proceeds would be spent until federal and private investment had kicked in; and that the entire operating costs of the train would be paid for via passenger fares (then estimated to be about $50 a person, a bargain for the Los Angeles-San Francisco run).

In 2008 the CHSRA had estimated that the total cost to develop and build the entire high-speed rail system would amount to about $33 billion. Proponents were already counting on federal subsidies and private investment to cover the shortfall between the bond proceeds and the total estimated construction costs. Democrats had just regained control of both houses of Congress, and the expectation seemed to be that much of the financing for the train could be offloaded onto the federal government. According to some critics, that expectation provided an excuse for California to start spending money it didn't have on the project and to start making financially nice to—"buying off" might be too harsh a characterization—the cities at various points along the proposed line. "They [hadn't] even sold the bonds yet," complained Jon Coupal, president of the Howard Jarvis Taxpayers Association, a California organization that opposed Proposition 1A from the beginning. "But the legislature [had] already approved $1.1 billion in spending for bookend projects in L.A. and San Francisco that aren't even high-speed rail but are basically fixed rail at the local level."

Ferocious opposition to the train surfaced long before the 2008 election, and it wasn't limited to antitax advocacy groups such as the Jarvis Association (named after the late Howard Jarvis, the activist who spearheaded a 1978 ballot measure that capped California's property taxes). The Sierra Club and other environmentalist groups for months fought a proposed Northern California route that would connect the San Joaquin Valley to San Francisco via a southerly route through the Diablo Mountains of the coastal ranges and then north along the San Francisco Peninsula, using a right-of-way already owned by the California Department of Transportation, which operates a commuter rail line from San Francisco to San Jose. The environmentalists argued that the population increases that would inevitably cluster around high-speed stations would endanger wetlands and grasslands harboring at-risk populations of waterfowl. They pushed for a more costly and time-consuming alternative-route through the thinly populated Altamont Pass on the east side of San Francisco Bay that would bypass the peninsula and descend into San Francisco from the north. To placate them while retaining the shorter southerly approach, the legislature eliminated a station proposed for Los Banos, a San Joaquin Valley town that sits adjacent to several state and federal wildlife refuges.

But the peninsula is also the home of Silicon Valley and its wealthy towns that house tech billionaires and their well-compensated employees. They dreaded the bullet train for reasons similar to those of the San Joaquin Valley farmers: They didn't want 200-mile-an-hour trains running high above grade and, shielded for miles by nearly impenetrable barriers, hurtling through their tree-shaded suburbs at five-minute intervals, lowering their multimillion-dollar property values. The wetlands-sheltering Los Banos compromise that had appeased the Sierra Club and other groups meant little to them. In August 2008, even before Proposition 1A hit the ballot boxes, the city of Atherton, adjacent to Stanford University and the very epicenter of high-tech luxury living, along with the nearby towns of Palo Alto and Menlo Park plus a number of environmental groups, filed the first of dozens of lawsuits lodged against the CHSRA over the

past eight years. Their argument was that the authority had failed to comply with provisions of California's Environmental Quality Act. Those lawsuits were initially quite successful, at least in delaying construction. Superior Court judge Michael Kenny in Sacramento, who has overseen the lion's share of the litigation against the rail authority, issued rulings in 2009 and 2011 that forced the authority to write extensive revisions to its plans to minimize environmental damage.

In early 2013, however, Kenny dismissed the suits, ruling that the state had finally complied with environmental imperatives—and dashing the peninsula localities' hope that a court order would force the tracks to take the Altamont route. Meanwhile, in its 2012 business plan, the CHSRA had announced that it would scrap the idea of building an elevated rail-bed along the peninsula and would instead use a "blended service" system in which the high-speed trains would share tracks from San Jose to San Francisco with the existing Caltrans trains, which run at grade. The blended system would slow the bullet trains down to 125 miles an hour, raising the travel time from Los Angeles to San Francisco to more than three hours, which competes unfavorably with flying (even after factoring in airport hassles). But it would save California a lot of money. The estimated cost of the rail line had by then soared from the initial $33 billion to $98 billion. The blended strategy was expected to lower those costs to a more palatable $68 billion.

It's easy to mock the consternation of the *bien-pensant* Silicon Valley billionaires at the prospect of actually having to live with the bullet trains that have been a longtime pet project of auto-contemptuous progressives. And it's hard, too, not to be cynical about the peninsula dwellers' having managed to secure an exemption from elevated rail-beds for their high-end communities that Californians with less wealth and clout—such as the farmers of the San Joaquin Valley—cannot buy. Yet, in fact, the concerns of those upscale peninsula residents have exactly mirrored the concerns of middle-class and working-class California communities in the path of the train: that the close-knit towns in which they live will be split irrevocably. At public meetings earlier this year, peninsula residents complained that the current plan to run the CHSRA's contemplated 20 bullet trains per hour at grade would entail shutting down some of the 42 grade crossings along the Caltrain commuter line that give cars, trucks, buses, bicycles, and pedestrians convenient routes across the tracks.

Palo Alto resident Elizabeth Alexis, a founder of the liberal anti-CHSRA organization Californians Advocating Responsible Rail Design, told me, "More than half the kids in Palo Alto walk or bike to school," so overpasses at 10-mile intervals, or even 5-mile intervals, would put an end to the youngsters' self-transportation. "We're not for or against high-speed rail," Alexis said. "We just have different views on how it should be implemented. We believe that putting high priority on good transit is just civilized. The voters said in 2008 that they wanted high-speed rail, but at a reasonable price. But now we're in 2016, and there's been a huge investment of money, and we're at a crossroads. We need a conversation, and if you're not open, you can't have a conversation."

In November 2011 John Tos, another Hanford resident named Aaron Fukuda, and the Kings County Board of Supervisors, which had initially faced the prospect of the bullet train line's smashing through the center of Hanford's historic downtown, filed the most contentious and longest-running of the anti-CHSRA lawsuits. (San Joaquin Valley farmers, farm bureaus, churches, businesses, irrigation districts, and localities from Madera to Bakersfield have lodged court proceedings to block the tracks, and while some of those cases have settled, others are still ongoing.) Fukuda, a civil engineer in his 30s, had bought a property (since sold) in 2006 on the east side of Hanford on which he and his wife had planned to build their dream house. Then they got hold of a CHSRA map indicating that their land lay square in the middle of the bullet-train alignment. With Frank Oliveira, whose family farms about 300 acres of cherry and walnut orchards in the same area, they formed a lobbying group, Citizens for California High Speed Rail Accountability, and started sending representatives to the rail authority's board meetings in

Sacramento. I interviewed Oliveira by phone and Fukuda over lunch at the Superior Dairy, a popular ice cream parlor in downtown Hanford famous for its Matterhorn-size portions.

Both Fukuda and Oliveira had been among the millions of rural Central Valley residents who had voted in favor of Proposition 1A in 2008, assuming that the bullet train would bypass their homes and orchards and run alongside Interstate 5 far to the west. Fukuda's discovery of the actual proposed route came as a complete surprise. "They never knocked on our doors and introduced themselves," he said. "We would never have known that we lived in the actual route of the train. The amount of anxiety that they've created in people's lives is incredible." The city of Hanford, he explained, had once enthusiastically supported a high-speed station—until it discovered that the authority planned to split its downtown in half.

The 58-year-old Oliveira, who grew up on a dairy farm, was particularly livid over the plan to run the train through a Baker Commodities cow-rendering plant on the outskirts of Hanford. "They were going to destroy it," he said. "This is a heavy dairy area, and it's the only rendering plant around. It serves about 600 dairies south of Fresno. Then they were supposed to move it, but to this day it's still in the alignment. They have no idea what it takes to run a dairy farm."

The Tos-Fukuda lawsuit was ultimately unsuccessful, but it did succeed in tying up the bulk of the $9.95 billion bond issue in Judge Kenny's courtroom for more than four years while lawyers wrangled over the suit's main contention: that the CHSRA was violating the terms of the 2008 referendum. In November 2013, Kenny ruled that Proposition 1A required the authority to identify all of its financing sources for completing the initial operating segment of the train—something the CHSRA, which had (and still has) little money on hand besides about $3.3 billion in federal funding, could not do. Kenny's ruling was a major victory for Tos and Fukuda, but a state appellate court reversed the decision a few months later, and the California supreme court refused to hear their appeal.

This past March, Kenny definitively declined to halt the train's construction, rejecting opponents' argument that, owing to the slower speeds necessitated by track-blending, it could never deliver on several of Proposition 1A's specific promises, such as topping out total travel time between Los Angeles and San Francisco at two hours and 40 minutes. Kenny agreed that the CHSRA had failed so far to show that its train project was either financially or logistically viable, and he noted that in order to shave its travel time on the shared peninsula track, the authority had abandoned the Transbay Terminal mentioned in Proposition 1A as its end point (a downtown transportation hub undergoing an ambitious reconstruction) in favor of a San Francisco station that was less convenient but slightly closer to San Jose. Nonetheless, Kenny ruled that those issues weren't "ripe for review"—that is, that the rail authority might be able to comply with Proposition 1A's restrictions at some point in the future as construction of the train continued.

Kenny's ruling highlighted what might be the CHSRA's biggest problem of all: a lack of construction money. Efforts to gin up private investment and federal subsidies that would trigger bond drawdowns have proved problematic. In 2010 California secured a $2.5 billion grant under the American Recovery and Reinvestment Act, aka the 2009 stimulus pushed into place by newly elected President Obama as a way to end the recession by channeling federal dollars into so-called shovel-ready infrastructure projects.

Obama, like Jerry Brown, has been an enthusiastic bullet-train booster. During his first term he frequently referred to a coast-to-coast network of high-speed trains that would rival the interstate highway system in scope. His 2009 stimulus package had included $8 billion in construction funds to jump-start high-speed rail projects across the country. Nonetheless, Republican governors in Ohio (John Kasich), Wisconsin (Scott Walker), and Florida (Rick Scott)—three states that had briefly contemplated publicly funded bullet trains—turned down the stimulus money, worried about anemic passenger numbers and the soaring costs their taxpayers might face

once the federal construction funds ran out. Those rejections turned out to be a windfall of sorts for California, which managed to snag an additional $1 billion from the Obama administration that other states didn't want, bringing the total up to the $3.5 billion that the state was expected to spend or forfeit by 2017. But if the train-skeptical Republican Congress maintains its majority this fall, no one expects more federal subsidies in the near future.

Not only does Proposition 1A expressly forbid the use of state tax revenues to fund high-speed construction, but the deficit-plagued state is already shouldering $400 billion in debt, largely in unfunded pension liabilities. In 2014 the Democratic-controlled California legislature, looking for ways to pay for the train, agreed to set aside 25 percent of "cap and trade" revenues—proceeds from a 2006 state law designed to curb greenhouse-gas emissions—to help fund high-speed rail. Clean-air groups have complained about the outsize state favoritism toward the rail authority, the largest beneficiary of cap and trade proceeds. The money might be better spent cleaning up buses and trucks that already operate, rather than underwriting an elaborate construction project that generates its own measure of air pollution. Nonetheless, the cap and trade deal, set to expire in 2020, was supposed to generate about $500 million a year in state funding for the train—until cap and trade auctions in May and August, expected to provide some $255 million, collapsed, yielding only $4.6 million. During the summer of 2015 the CHSRA put out feelers to potential private-sector investors. None expressed any interest in underwriting the construction without a state guarantee of expected operating revenues—impossible under the language of Proposition 1A.

Added to those shortfalls have been looming deadlines and massive engineering challenges. The plan had been that by 2022 the train would start accepting passengers for a 300-mile leg that would run south from Merced to Burbank in Los Angeles's San Fernando Valley, providing a model of service and passenger use that would finally attract the longed-for private-sector investment to pay for the rest of the construction. The authority had chosen to give priority to the Los Angeles metropolitan area over the San Francisco area because the former's larger population base could be expected to draw more paying customers, even though it was never clear why Southern Californians would want to take a trip to Fresno. To reach Burbank, however, would require tunneling through two east-west mountain ranges, the Tehachapi and the San Gabriel, that separate the San Joaquin Valley from the vast alluvial plain of coastal Southern California. The contemplated 36 miles of tunnels to be blasted through the two fault-pocked and potentially earthquake-prone ranges would be a geology-defying accomplishment that, as of January 2016, few at the CHSRA were quite certain how to effect. Indeed, some geologists deem it close to impossible. Diana Gomez, Central Valley regional director of the rail authority, said in an interview that she was counting on "engineering ingenuity and innovation, a lot of brainpower" to turn this ambitious drilling project into reality.

And tunneling—if it works—is the only feasible way that a bullet train, which requires ultra-straight tracks to achieve its high speeds, can make it through the 7,000-foot-high Tehachapis to Los Angeles. The lowest feasible natural defile, the 4,000-foot Tejon Pass through which Interstate 5 descends into Bakersfield on a steep 6 percent grade known as the Grapevine, has been a death trap for decades for many a runaway truck and its driver. (Freight trains between Bakersfield and Los Angeles detour around the Grapevine into the Mojave Desert along a time-consuming spiral called the Tehachapi Loop that reduces the grade, but there hasn't been any Bakersfield-Los Angeles passenger service since the early 1970s.)

The public opposition to the bullet train's planned alignment through Southern California turned out to be as vociferous as that elsewhere in the state. At a raucous June 2015 CHSRA hearing in downtown Los Angeles, about 150 residents and business owners along four alternative proposed routes voiced complaints about noise, destruction of homes and businesses, and, most - poignantly, the chopping up of communities by the tracks, their high-voltage electrical systems,

and the 20-foot-high proposed sound walls that one journalist quipped would give the towns "a real Berlin Wall vibe." Three of the proposed routes, which would link the desert city of Palmdale to Burbank, involved tunneling through the federally owned Angeles National Forest, which environmentalists complained would disrupt water tables and wells, threatening wildlife. An alternative overland route alongside a freeway would divide ranches nestled in the foothills of the San Gabriels where about 10,000 horses reside along with their owners. Joel Fajardo, mayor of San Fernando, a mostly Latino working-class town of 24,000 in the far northwest corner of Los Angeles County, complained that the train would bisect his city, with only two crossing points. "They would never propose a bullet train to go through Old Town Pasadena, Third Street Promenade [in high-end, Pacific Ocean-abutting Santa Monica], or Rodeo [Drive]," said Fajardo.

In December 2015, Patty Lopez, a Democratic assemblywoman representing San Fernando, broke ranks for the first time from the solid wall of Democratic legislative support in California for the bullet train. Declaring that the state had higher priorities such as water, jobs, and doing something about homelessness that outweighed super-fast trains, Lopez told the *Los Angeles Times* that the "money we are going to spend on it is crazy." It hadn't helped that in October 2015 *Times* reporter Ralph Vartabedian analyzed leaked CHSRA documents indicating that crucial deadlines would be missed and that Parsons Brinckerhoff, the New York-based main manager for the project, had predicted in 2013 that the total cost would rise at least 5 percent above the projected $68 billion—a prediction that didn't make its way into the rail authority's 2014 business plan. (Parsons presided over the "Big Dig," a tunnel through downtown Boston whose cost zoomed from a $2.8 billion estimate in 1982 to $14.6 billion by the time it was completed in 2007.)

On March 4 of this year, the CHSRA issued a drastically revised business plan. One of its features was exactly the sort of delay that the leaked documents had forecast: The starting date for the first operational leg of the train wouldn't be 2022 but 2025. The first main phase of the train—from Anaheim to San Francisco—wouldn't be completed until 2029, more than 10 years later than contemplated in the text of Proposition 1A. The even bigger surprise was that the authority had decided to turn its construction schedule upside down, dropping the difficult and expensive southerly initial segment in favor of a northerly initial operating segment that would cost less than half as much.

The CHSRA slivered off about $4 billion in estimated construction costs by using what it said were more accurate figures, so that the total cost of the Anaheim-San Francisco run would now be $64 billion instead of $68 billion. But a review of the business plan by the California Legislative Analyst's Office pointed out that nearly every single aspect of the proposed funding arrangements for the train was dicey—including the funding for the initial 130-mile segment where work is ongoing. For example, the CHSRA seemed to be counting on the legislature's continuing to funnel cap and trade proceeds in its direction through 2050, some 30 years beyond the expiration of its current cap and trade arrangement—and that's without even anticipating cap and trade auction failures like this past May's. The office also noted that the CHSRA had no concrete idea how it was going to pay for some $43.5 billion out of the total construction costs, which it would need to find by 2018 when the stimulus money dries up.

The Obama administration in May gave the CHSRA something of a break, handing the agency four extra years—up to 2021—to spend its existing federal stimulus grants. Technically, the 2017 deadline remains in place, and had the administration decided to enforce it, the state of California, which has spent only about $1 billion in grant funds so far because of delays, might have had to forfeit most of the rest. But thanks to some interpretive jiggery-pokery by the Department of Transportation and the Federal Railroad Administration, California will no longer be required to submit invoices for work actually performed in order to receive the federal funds, as most grant recipients are required to do. The May reprieve essentially hands over all the grant proceeds to California in advance, allowing the state to spend them in a far more leisurely fashion.

Earlier the Obama administration had absolved California from another stimulus-grant requirement: having to supply matching funds on a dollar-for-dollar basis in order to qualify for the federal monies. That would have obliged the state to put up more than $3 billion, which, what with its bond funding tied up at the time and no hope of dipping into state tax revenues, would have been nearly impossible. Now, California gets to wait until it has spent the federal billions before it has to put up any money of its own. The latest change in the grant terms in May—essentially turning the grant into an open-ended cash advance with no federal monitoring of how it is to be spent—enraged congressional Republicans. Representative Denham, the rail subcommittee chairman, called this a "blank check" representing a "clear conflict of interest" on the part of train-booster Obama. "Not only do they lack a business plan, but they continue to waste taxpayer dollars without being held accountable," Denham complained in an interview with the *Hill.*

Even more unpleasant surprises concerning the bullet train have recently dropped like so many other shoes. In late June the *Los Angeles Times*'s Vartabedian, having filed a freedom-of-information request, revealed that the CHSRA had apparently scrubbed from its website a pessimistic assessment by the Spanish rail-construction contractor Ferrovial that the train would never be able to operate without the taxpayer subsidies that Proposition 1A specifically forbids. The Spanish firm had noted in its bid that of 111 high-speed lines that it had looked at around the world, only 3 were financially viable without government aid. Then it turned out, in early August, that the relocation of a section of Highway 99 running through Fresno that is crucial to the construction of the San Joaquin Valley segment is running six months behind schedule and 15 percent over budget. The CHSRA is trying to persuade the state legislature to give Caltrans a $35 million increase over the $226 million it had granted the agency for the relocation in 2013. On Aug. 29 the House rail subcommittee held an oversight hearing in San Francisco at which both Republicans and Democrats expressed concerns that the line would never be completed, leaving California with isolated segments of track as politically powerful Los Angeles and San Francisco siphon off portions of the already scarce funds into pet "bookend" projects.

An initiative originally planned for the 2016 California ballot was heavily supported by San Joaquin Valley farmers. It would have diverted proceeds from the bullet-train bond issue to water projects but was withdrawn by its Republican sponsors when they discovered they couldn't afford the high cost of signature-gathering to qualify for the ballot. So right now train opponents in an overwhelmingly Democratic state are pinning their hopes on Jerry Brown's lieutenant governor, former San Francisco mayor Gavin Newsom, who is expected to run to succeed Brown when his term expires in 2018 and who broke with him on the issue in a 2014 interview with a Seattle radio station: "I am not the only Democrat that feels this way," Newsom said. "I am one of the few that just said it publicly. . . . Most are now saying it privately."

But then, there's the alternative. I talked over the phone with the CHSRA's board chairman, Dan Richard, a longtime state official during Brown's first round as state governor who served on the board of the San Francisco Bay Area Rapid Transit District from 1992 to 2004. "They say we're destroying agriculture in the Central Valley," he said. "But over those 130 miles of track, we're taking maybe 4,500 acres out of 6.5 million acres. High-speed rail isn't a threat to agriculture."

Richard's charm was infectious, and when he said that private investment was the only chance that the California train has of surviving—and that the California train is a wonderful thing—I wanted to believe. He was the Music Man conjuring up 76 trombones.

"I was in China," he said. "The Chinese have 15,000 miles of high-speed rail. They bulldozed people out of the way to get it, and we're not going to do that. But there you are going 190 miles an hour, and you cover 800 miles in five hours. I thought: If we had this in California, I could go

to San Francisco for dinner and a show, and I'd be back in time for bed. I could go from L.A. and be hiking up Half-Dome by noon. When people hear this, they say, 'Wow.' "

Yes. Except, well, $64 billion—or whatever.